

Analyte Specific Reagent.

Analytical and performance characteristics are not established.

SPECIFICITY

The CD83 molecule, first described as HB15 molecule (1), is a transmembrane glycoprotein of 45 kDa, with an extracellular V-type Ig-like domain (1, 2).

CD83 has been acknowledged as a specific marker of various subsets of dendritic cells (DCs) (2-6). It is selectively expressed by:

- a) those mature DCs located in T cell areas of lymphoid tissues, which are known as interdigitating dendritic cells (IDCs) (1, 7).
- b) epidermal DCs known as Langerhans cells (LCs) (1).
- c) a subset of peripheral blood DCs (0.16% of total mononuclear cells) whose phenotype is described in reference 3.

CD83 antigen has also been detected on activated B cells within germinal centers (1). Although the role of CD83 is not yet established, its restricted expression on antigen presenting cells (APCs) such as DCs and B lymphocytes suggests that CD83 may be one of the accessory molecules involved in T lymphocyte activation induced by APCs (1).

The HB15a monoclonal antibody has been assigned to the CD83 cluster of differentiation during the 5th International Workshop on Human Leucocyte Differentiation Antigens in Boston, U.S.A., in 1993 (2).

REAGENT

IOTest CD83-PC5 Conjugated Antibody
PN IM3240U – 1 mL Liquid – 10 µL / test*.

- Clone** HB15a
- Ig chain** IgG2b, Mouse
- Immunogen** COS cells transfected with the HB15 cDNA
- Hybridoma** Myeloma NS1 x Balb/c
- Source** Ascites fluid
- Purification** Ion exchange or affinity chromatography
- Conjugation** PC5: The Ig is conjugated to a tandem dye constituted of R-phycoerythrin covalently linked to Cy5 at 0.5 – 1.5 mole of PC5 per mole of Ig.

- Fluorescence** PC5 (Deep Red)
Excites at 486–580 nm
Emits at 660–680 nm

REAGENT CONTENTS

This reagent is provided in phosphate-buffered saline, with 0.1% sodium azide (NaN₃) as preservative, and 2.0 mg / mL bovine serum albumin (BSA).

STATEMENT OF WARNINGS

1. This reagent contains 0.1% sodium azide. Sodium azide under acid conditions yields hydrazoic acid, an extremely toxic compound. Azide compounds should be flushed with running water while being discarded. These precautions are recommended to avoid deposits in metal piping in which explosive conditions can develop. If skin or eye contact occurs, wash excessively with water.
2. Do not use antibody beyond the expiration date on the label.
3. Samples and all material coming in contact with them should be handled as if capable of transmitting infection and disposed of with proper precautions.
4. Never pipet by mouth and avoid contact of samples with skin and mucous membranes
5. Minimize exposure of reagent to light during storage or incubation.
6. Avoid microbial contamination of reagents or incorrect results might occur.
7. Use good laboratory practices when handling this reagent.

STORAGE CONDITIONS AND STABILITY

This reagent is stable up to the expiration date when stored at 2 – 8°C. Do not freeze. Minimize exposure to light.

EVIDENCE OF DETERIORATION

Any change in the physical appearance of this PC5-labeled reagent (clear colorless to pinkish liquid) or any major variation in values obtained for control samples may indicate deterioration and the reagent should not be used.

REAGENT PREPARATION

No preparation is necessary. This monoclonal antibody may be used directly from the vial. Bring reagent to 18 – 25°C prior to use.

SELECTED RESEARCH REFERENCES

1. Zhou, L.J., Schwarting, R., Smith, H.M., Tedder, T.F., "A novel cell-surface molecule expressed by human interdigitating reticulum cells, Langerhans cells, and activated lymphocytes is a new member of the Ig superfamily", 1992, J. Immunol., 149, 735-742.
2. Engel, P., Wagner, N., Tedder, T.F., "CD83 Workshop report", 1995, Leucocyte Typing V, White Cell Differentiation Antigens. Schlossman,

- S.F., et al., Eds., Oxford University Press, 693-695.
- 3. Zhou, L.J., Tedder, T.F., "Human blood dendritic cells selectively express CD83, a member of the immunoglobulin superfamily", 1995, J. Immunol., 154, 3821-3835.
- 4. Köhrgruber, N., Halanek, N., Gröger, M., Winter, D., Rappersberger, K., Schmitt-Egenolf, M., Stingl, G., Maurer, D., "Survival, maturation, and function of CD11c⁺ and CD11c⁻ peripheral blood dendritic cells are differentially regulated by cytokines", 1999, J. Immunol., 163, 3250-3259.
- 5. Sorg, R.V., Kögler, G., Wernet, P., "Identification of cord blood dendritic cells as an immature CD11c⁻ population", 1999, Blood, 93, 2302-2307.
- 6. Palucka, K.A., Taquet, N., Sanchez-Chapuis, F., Gluckman, J.C., "Dendritic cells as the terminal stage of monocyte differentiation", 1998, J. Immunol., 160, 4587-4595.
- 7. Steinman, R.M., Pack, M., Inaba, K., "Dendritic cells in the T-cell areas of lymphoid organs", 1997, Immunol. Rev., 156, 25-37.

PRODUCT AVAILABILITY

IOTest CD83-PC5 Conjugated Antibody
PN IM3240U – 1 mL Liquid – 10 µL / test*.

PC5 is licensed under patents 4,542,104 and 4,520,110.
Cy5 is licensed under patents 4,981,977 and 5,268,486.

For additional information in the USA, call 800-526-7694.
Outside the USA, contact your local Beckman Coulter representative.

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(*) : 10 µL is the quantity of product sufficient to stain
5 x 10⁵ cells in a standard immunofluorescence assay

